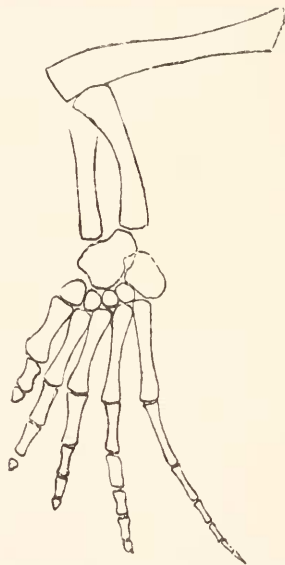


20.—*On a New Mesosaurian Reptile (Notosaurus africanus).*—By
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HITHERTO three species of *Mesosaurus* have been recognised in South Africa—*M. tenuidens*, Gervais, *M. pleurogaster*, Seeley, and *M. capensis* (Gürich). A fourth species is known from Brazil, *M. brasiliensis*, McGregor, and from Brazil is also known an allied



Right pes of *Notosaurus africanus*. About nat. size.

Mesosaurian, *Stereosternum tumidum*, Cope. Though *Stereosternum* and *Mesosaurus* agree in most essential characters, they differ in the former having a pubic foramen and the latter a pubic notch. In both genera the digital foramen is in the hind foot 2, 3, 4, 5, 4. The new specimen which I am about to describe is also closely allied to *Mesosaurus*, but differs in having the digital formula of the hind foot 2, 3, 4, 5, 6.

For the new type I propose the name *Noteosaurus africanus*, g. et sp. nov.

The specimen was discovered in the district of Victoria West by Mr. Blake. There is no doubt it is from the same horizon as the South African species of *Mesosaurus*. Unfortunately only the pelvic region with the anterior part of the tail and the greater part of the two hind limbs are known; and further, though the feet are satisfactorily preserved the pelvis is almost hopelessly weathered away. A part of the ischium is preserved, a fragment of the pubis, and a fair portion of the ilium. There is no evidence as to whether the pubis was perforated or notched.

The femur measures 33 mm. in length. The ends resemble those of the South African Mesosaurs rather than the Brazilian in being less completely ossified. The tibia and fibula agree rather with those of *M. brasiliensis*. The fibula has, as in that species, the typical Cotylosaurian shape. It measures 21 mm. in length, and the head is 5.3 mm. wide. The tibia is rather slender.

The tarsus is well preserved. The two large proximal elements are very similar to those in *M. brasiliensis* and *M. capensis*, the resemblance to those of the former being the more marked. Distally there appear to be only four tarsalia. The shape of the elements will be best understood from the figure.

The following are the lengths of the metatarsals and digits in this new species, and, for comparison, the lengths in the foot of the Nieuwoudtville *Mesosaurus* which is believed to be *M. capensis*.

	<i>Noteosaurus africanus.</i>	<i>Mesosaurus capensis.</i>
1st metatarsal	9 mm.	8.7 mm.
2nd „	12 „	12.4 „
3rd „	12.8 „	15 „
4th „	13.5 „	16.5 „
5th „	14.5 „	18 „
1st digit, incl. metatarsal	15.5 „	16 „
2nd „ „	24.7 „	24.6 „
3rd „ „	28.6 „	31 „
4th „ „	33 „	37 „
5th „ „	39 „	39 „

In comparing the feet of the two forms the most striking differences are the relatively greater lengths of the 3rd, 4th, and 5th metatarsals in *Mesosaurus*, the greater length of the 4th toe in *Mesosaurus*, and the relatively greater length of the 5th toe in

Noteosaurus. The possession of 6 phalanges in the 5th toe of *Noteosaurus* is a striking difference from *Mesosaurus*, when certainly there are only 4 in the known specimens.

The phalanges of the 6th toe are slender, and the last one is pretty certainly not clawed, whereas those of the other toes are short and probably had some sort of nail or claw.

Noteosaurus africanus is a very near ally of *Mesosaurus*, and is an interesting modification. The increase in number of the phalanges of the 5th toe is exactly comparable to the increase in the number of phalanges in the manus of the Cetacea. It is remarkable to find this modification in one of the oldest known reptiles. The zone in which it occurs is certainly not later than Lower Permian. It may even possibly be Upper Carboniferous. It is further remarkable that only one toe should be thus specialised.